



SEQUENCE LISTING

<10> Ades, Edwin W.
 Sampson, Jacquelyn S.
 Tharpe, Jean A.
 Johnson, Scott E.
 Jue, Danny L.
 Carlone, George M.
 Zeiler, Joan L.
 Westerlink, Maria Anna J.

<120> Multiple Antigenic Peptides Immunogenic
 Against Streptococcus Pneumonia

<130> 14114.0341U1

<140> 09/613,092

<141> 2000-07-10

<160> 12

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 1330

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<222> (189)...(1115)

<223> Description of Artificial Sequence; note =
 synthetic construct

<400> 1

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tatcggtgctt acagctgcta gtttctttct cattagcttc tttatcgctc ccaaacaacg	120
atatttgaaa ctgaaaaata aacatttggt aaaataagg gcaaagccct aataaattgg	180
aggatcta atg aaa aaa tta ggt aca tta ctc gtt ctc ttt ctt tct gca	230
Met Lys Lys Leu Gly Thr Leu Leu Val Leu Phe Leu Ser Ala	
1 5 10	

atc att ctt gta gca tgt gct agc gga aaa aaa gat aca act tct ggt	278
Ile Ile Leu Val Ala Cys Ala Ser Gly Lys Lys Asp Thr Thr Ser Gly	
15 20 25 30	

caa aaa cta aaa gtt gtt gct aca aac tca atc atc gct gat att act	326
Gln Lys Leu Lys Val Val Ala Thr Asn Ser Ile Ile Ala Asp Ile Thr	
35 40 45	

aaa aat att gct ggt gac aaa att gac ctt cat agt atc gtt ccg att	374
Lys Asn Ile Ala Gly Asp Lys Ile Asp Leu His Ser Ile Val Pro Ile	
50 55 60	

ggg caa gac cca cac gaa tac gaa cca ctt cct gaa gac gtt aag aaa	422
Gly Gln Asp Pro His Glu Tyr Glu Pro Leu Pro Glu Asp Val Lys Lys	
65 70 75	

act tct gag gct gat ttg att ttc tat aac ggt atc aac ctt gaa aca	470
Thr Ser Glu Ala Asp Leu Ile Phe Tyr Asn Gly Ile Asn Leu Glu Thr	
80 85 90	
ggg ggc aat gct tgg ttt aca aaa ttg gta gaa aat gcc aag aaa act	518
Gly Gly Asn Ala Trp Phe Thr Lys Leu Val Glu Asn Ala Lys Lys Thr	
95 100 105 110	
gaa aac aaa gac tac ttc gca gtc agc gac ggc gtt gat gtt atc tac	566
Glu Asn Lys Asp Tyr Phe Ala Val Ser Asp Gly Val Asp Val Ile Tyr	
115 120 125	
ctt gaa ggt caa aat gaa aaa gga aaa gaa gac cca cac gct tgg ctt	614
Leu Glu Gly Gln Asn Glu Lys Gly Lys Glu Asp Pro His Ala Trp Leu	
130 135 140	
aac ctt gaa aac ggt att att ttt gct aaa aat atc gcc aaa caa ttg	662
Asn Leu Glu Asn Gly Ile Ile Phe Ala Lys Asn Ile Ala Lys Gln Leu	
145 150 155	
agc gcc aaa gac cct aac aat aaa gaa ttc tat gaa aaa aat ctc aaa	710
Ser Ala Lys Asp Pro Asn Asn Lys Glu Phe Tyr Glu Lys Asn Leu Lys	
160 165 170	
gaa tat act gat aag tta gac aaa ctt gat aaa gaa agt aag gat aaa	758
Glu Tyr Thr Asp Lys Leu Asp Lys Leu Asp Lys Glu Ser Lys Asp Lys	
175 180 185 190	
ttt aat aag atc cct gct gaa aag aaa ctc att gta acc agc gaa gga	806
Phe Asn Lys Ile Pro Ala Glu Lys Lys Leu Ile Val Thr Ser Glu Gly	
195 200 205	
gca ttc aaa tac ttc tct aaa gcc tat ggt gtc cca agt gcc tac atc	854
Ala Phe Lys Tyr Phe Ser Lys Ala Tyr Gly Val Pro Ser Ala Tyr Ile	
210 215 220	
tgg gaa atc aat act gaa gaa gaa gga act cct gaa caa atc aag acc	902
Trp Glu Ile Asn Thr Glu Glu Glu Gly Thr Pro Glu Gln Ile Lys Thr	
225 230 235	
ttg gtt gaa aaa ctt cgc caa aca aaa gtt cca tca ctc ttt gta gaa	950
Leu Val Glu Lys Leu Arg Gln Thr Lys Val Pro Ser Leu Phe Val Glu	
240 245 250	
tca agt gtg gat gac cgt cca atg aaa act gtt tct caa gac aca aac	998
Ser Ser Val Asp Asp Arg Pro Met Lys Thr Val Ser Gln Asp Thr Asn	
255 260 265 270	
atc cca atc tac gca caa atc ttt act gac tct atc gca gaa caa ggt	1046
Ile Pro Ile Tyr Ala Gln Ile Phe Thr Asp Ser Ile Ala Glu Gln Gly	
275 280 285	
aaa gaa ggc gac agc tac tac agc atg atg aaa tac aac ctt gac aag	1094
Lys Glu Gly Asp Ser Tyr Tyr Ser Met Met Lys Tyr Asn Leu Asp Lys	
290 295 300	
att gct gaa gga ttg gca aaa taagcctctg aaaaacgtca ttctcatgtg	1145
Ile Ala Glu Gly Leu Ala Lys	
305	

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agctggcggtt ttttctatgc ccacatttcc ggtcaaatca ttggaaaatt ctgactgttt 1205
cagatacaat ggaagaaaaa agattggagt atcctatggg aacttttctc ggaaatcctg 1265
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caaca 1330

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<210> 2

<211> 309

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; note =
synthetic construct

<400> 2

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Met Lys Lys Leu Gly Thr Leu Leu Val Leu Phe Leu Ser Ala Ile Ile
 1          5          10          15
Leu Val Ala Cys Ala Ser Gly Lys Lys Asp Thr Thr Ser Gly Gln Lys
      20          25          30
Leu Lys Val Val Ala Thr Asn Ser Ile Ile Ala Asp Ile Thr Lys Asn
      35          40          45
Ile Ala Gly Asp Lys Ile Asp Leu His Ser Ile Val Pro Ile Gly Gln
      50          55          60
Asp Pro His Glu Tyr Glu Pro Leu Pro Glu Asp Val Lys Lys Thr Ser
65          70          75          80
Glu Ala Asp Leu Ile Phe Tyr Asn Gly Ile Asn Leu Glu Thr Gly Gly
      85          90          95
Asn Ala Trp Phe Thr Lys Leu Val Glu Asn Ala Lys Lys Thr Glu Asn
      100          105          110
Lys Asp Tyr Phe Ala Val Ser Asp Gly Val Asp Val Ile Tyr Leu Glu
      115          120          125
Gly Gln Asn Glu Lys Gly Lys Glu Asp Pro His Ala Trp Leu Asn Leu
      130          135          140
Glu Asn Gly Ile Ile Phe Ala Lys Asn Ile Ala Lys Gln Leu Ser Ala
145          150          155          160
Lys Asp Pro Asn Asn Lys Glu Phe Tyr Glu Lys Asn Leu Lys Glu Tyr
      165          170          175
Thr Asp Lys Leu Asp Lys Leu Asp Lys Glu Ser Lys Asp Lys Phe Asn
      180          185          190
Lys Ile Pro Ala Glu Lys Lys Leu Ile Val Thr Ser Glu Gly Ala Phe
      195          200          205
Lys Tyr Phe Ser Lys Ala Tyr Gly Val Pro Ser Ala Tyr Ile Trp Glu
      210          215          220
Ile Asn Thr Glu Glu Glu Gly Thr Pro Glu Gln Ile Lys Thr Leu Val
225          230          235          240
Glu Lys Leu Arg Gln Thr Lys Val Pro Ser Leu Phe Val Glu Ser Ser
      245          250          255
Val Asp Asp Arg Pro Met Lys Thr Val Ser Gln Asp Thr Asn Ile Pro
      260          265          270
Ile Tyr Ala Gln Ile Phe Thr Asp Ser Ile Ala Glu Gln Gly Lys Glu
      275          280          285
Gly Asp Ser Tyr Tyr Ser Met Met Lys Tyr Asn Leu Asp Lys Ile Ala
      290          295          300
Glu Gly Leu Ala Lys
305

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<210> 3

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; note =
synthetic construct

<400> 3

aggatctaata g

21

<210> 4

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; note =
synthetic construct

<400> 4

tcagaggctt attttgccaa t

21

<210> 5

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; note =
synthetic construct

<400> 5

Thr	Val	Ser	Arg	Val	Pro	Trp	Thr	Ala	Trp	Ala	Phe	His	Gly	Tyr
1				5					10					15

<210> 6

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; note =
synthetic construct

<400> 6

Arg	Ser	Tyr	Gln	His	Asp	Leu	Arg	Ala	Tyr	Gly	Phe	Trp	Arg	Leu
1				5					10					15

<210> 7

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; note =
synthetic construct

<400> 7

Leu	Val	Arg	Arg	Phe	Val	His	Arg	Arg	Pro	His	Val	Glu	Ser	Gln
1				5					10					15

<210> 8

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; note =
synthetic construct

<400> 8

Leu Val Arg Arg Phe Val His His Arg Pro His Val Glu Ser Gln
1 5 10 15

<210> 9

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; note =
synthetic construct

<400> 9

Leu Val Arg Arg Phe Val His Arg Pro His Val Glu Ser Gln Lys
1 5 10 15

<210> 10

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; note =
synthetic construct

<400> 10

Ser Tyr Gln His Asp Leu Arg Ala Tyr Gly Phe Trp Arg Leu Lys
1 5 10 15

<210> 11

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; note =
synthetic construct

<400> 11

Cys Tyr Gly Gly
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<210> 12

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; note =
synthetic construct

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<221> VARIANT

<222> 2,3

<223> Xaa = any amino acid

<400> 12

Leu Xaa Xaa Cys

1